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Editorial Comment

Early Discharge After a Myocardial Infarction: What's the Hurry?*

SIDNEY GOLDSTEIN, MD, FACC

Detroit, Michigan

The study by Sanz et al. (1) reported in this issue of the Journal should give us pause to consider the purpose of the hospital period for patients who have experienced an acute myocardial infarction. Only 40 years ago, at a time when physicians advised 3 to 6 months of bed rest after a heart attack, Samuel Levine and Bernard Lown (2) proposed a revolutionary program of early chair rest and a hospital stay of only 3 to 6 weeks. Since those times, the recommended length of the hospital stay has become progressively shorter. In 1978 McNeer et al. (3) advised ambulation and hospital discharge within 7 to 12 days in selected patients with uncomplicated myocardial infarction. A recent report (4) suggested that a 3-day hospital stay is sufficient in a small number of selected patients with acute myocardial infarction who have no provokable ischemia as measured by exercise radionuclide testing.

During the 40 years since Levine and Lown's report (2), our understanding of the mechanism, clinical presentation, diagnosis and treatment of acute myocardial infarction has changed dramatically. As a result, the diagnosis of acute myocardial infarction is applied to an increasingly varied group of patients. New therapeutic interventions including angioplasty and thrombolytic therapy are now applied to patients with acute myocardial infarction. The initial shortening of the hospital period resulted from a challenge to a therapeutic paradigm that had little basis in current scientific knowledge. The more recent approaches to a shortened hospital stay are in part a result of an assault on the cost of health care and in part a justification for early, up-front expensive interventional and diagnostic procedures. Although these economic pressures are inescapable, we need to establish criteria for duration of the hospital stay based on the severity of the infarction, cogent clinical concepts, reasonable treatment strategies and rehabilitation goals.

Identifying the low risk patient. The identification of patients with variable risk for a cardiac event during the hospital and posthospital periods has been extensively explored in order to detect those who could benefit from early discharge. Even at the genesis of the coronary care unit concept, Mather et al. (5) suggested that some patients do not need to be admitted to the hospital and could be treated as well at home as in the coronary care unit. Although we know that some patients are at a low risk, the size of this group is uncertain. In their current study, Sanz et al. (1) found that 13.9% of the patients evaluated 4 days after infarction were at low risk for cardiac events during the subsequent 8 days of the hospital stay. In a previous study by McNeer et al. (3), 42% of patients had no serious complications by day 5 and were discharged within a week without any untoward effects. In a subsequent study of 507 patients <75 years of age admitted with acute myocardial infarction with and without reperfusion therapy (4), 35% were asymptomatic at 3 days. Seventy-five percent of these patients had no provokable ischemia by nuclear exercise test and when these patients were randomly allocated to discharge at either 3 days or 7 to 10 days, the cardiac event rate was equal in both groups. Thus, although a low risk group can be identified, it represents a relatively small proportion, perhaps 15% to 25%, of those who have experienced an acute myocardial infarction. Factors that identify this low risk group are subject to a number of variables. It is clear that the age of patients admitted to coronary care units is increasing. At the same time, our threshold for defining ischemic events has increased both the number of patients included within the diagnostic rubric of myocardial infarction and our sensitivity for identifying postinfarction ischemic events.

Goals of therapy. What should be the goals of treatment for acute myocardial infarction once the patient has arrived in the coronary care unit? Clearly, one goal is therapeutic, another is risk stratification and a third is the initiation of medical therapy and cardiac rehabilitation.

Therapeutic interventions in the hyperacute phase of myocardial infarction have largely been confined to the early administration of thrombolytic and beta-adrenergic blocking agents in addition to the recognition and treatment of life-threatening arrhythmias. The use of thrombolytic agents with or without heparin therapy requires observation for at least 48 h and may delay discharge from the coronary care unit in some instances. After coronary care unit discharge, patients are ambulated and treatment with drugs such as beta-blockers is continued and administration of angiotensin-converting enzyme inhibitors may be initiated. Although initial doses of both classes of therapeutic agents are well tolerated, a case can be made for in-hospital drug administration during the early phase of dose adjustment. In addition, there is a need for risk stratification, which requires procedures such as exercise testing. Many of these procedures require hospitalization for 3 to 4 days after discharge from the coronary care unit, but this period could be shortened if hospital efficiency were improved. Structured

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From the Division of Cardiovascular Medicine, Henry Ford Heart and Vascular Institute, Detroit, Michigan.

Address for correspondence: Dr. Sidney Goldstein, Division of Cardiovascular Medicine, Henry Ford Heart and Vascular Institute, 2799 West Grand Boulevard, Detroit, Michigan 48202-2689.

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rehabilitation programs, including psychologic assessment and group therapy, advice on diet and early exercise assessment, are an integral part of treatment in many cardiac units. They offer patients an opportunity to reassess their lifestyle and to embark on a program of preventing future cardiac events. It is not clear whether these efforts are best accomplished in the hospital or in outpatient settings. Questions have been raised with regard to the ability of patients to retain this information under the adverse conditions of a hospital stay (6). Most important, the timing of hospital discharge is affected by the patient's home setting. Because most physicians have forsaken house calls, the discharge to home is often a passage into an ill defined and uncertain environment, particularly for aged patients.

Then what can be said in favor of early hospital discharge? Physicians need to keep in mind that patients who have sustained an acute myocardial infarction have passed through a life-threatening event that requires physiologic, psychologic and therapeutic adjustment. Yes, it is true that the young man with a nontransmural infarct who has received thrombolytic therapy and has normal findings on an exercise test can be discharged early, even within 3 to 4 days. But the possibility that an elderly patient with little or no social support will go home in 3 to 4 days to a solitary apartment should arouse some anxiety. There obviously is no simple answer, but there is a need for physicians to translate into the reality of everyday living the complex clinical syndrome that we have come to know as acute myocardial infarction.

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